Product Information

VESTAMID® NRG 4101 yellow

For Steel Pipe Protection (Encasement)

VESTAMID® NRG 4101 offers a flexible, mechanically tough encasement system that combines the advantages of polyethylene coating and cement mortar casing.

Uses of VESTAMID® NRG products

The important advantages of VESTAMID® NRG 4101 as an encasement material are:

- unusually high impact resistance and toughness, even at low temperatures
- excellent stress cracking resistance
- excellent wear resistance
- low sliding friction coefficient

Product characteristics compared with other encasement materials

VESTAMID® NRG 4101 yellow has higher Shore hardness than polyethylene or polypropylene. In contrast to polyethylene or propylene encasement, therefore, the polyamide encasement offers, apart from the corrosion protection provided by the barrier effect, also mechanical protection for the encased steel pipe.

Application areas for the new encasement material are found in non-conventional installation technologies such as:

- horizontal directional drilling
- the soil displacement method with non-steered displacement hammers
- dynamic ramming
- plow technology

We recommend a processing temperature between 230°C (446°F) and 260°C (500°F) – in some cases up to 280°C (536°F) – during the extrusion process.

Drying at 80°C (176°F) for 2 hours to 4 hours before processing is recommended.

For information about processing of VESTAMID®NRG 4101 please follow the general recommendation in our brochure „VESTAMID® Processing Guide Line."

For further information, please contact us at evonik-hp@evonik.com.

Property		Test method international	national	Unit	VESTAMID® NRG 4101 yellow
Density	23°C /73°F	ISO 1183	DIN EN ISO 1183	g/cm³	1.02
Melting range		ASTM D3418			
DSC	2nd heating			°C /°F	177 /351
Tensile test		ISO 527-1	DIN EN ISO 527-1		
Stress at yield		ISO 527-2	DIN EN ISO 527-2	MPa	40
Strain at yield				%	12
Strain at break				%	> 150
Tensile modulus		ISO 527-1 ISO 527-2	DIN EN ISO 527-1 DIN EN ISO 527-2	MPa	1350
CHARPY impact strength		ISO 179/1eU	DIN EN ISO 179/1eU		
	-40°C /-40°F			kJ/m²	N[1)]
Shore hardness D		ISO 868	DIN EN ISO 868		73
Ball indentation hardness H30		ISO 2039-1	DIN EN ISO 2039-1	N/mm²	76
Vicat softening temperature		ISO 306	DIN EN ISO 306		
Method A	10 N			°C /°F	170 /338

[1)] N = No break

The results shown have been generated from a low number of production lots. Therefore, they are preliminary and not yet the result of a statistical evaluation. Therefore they must not be used to establish specifications.

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